



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/675,018

09/30/2003

Stephen T. Staphanos

R22.12-0031

4824

27367

7590

12/14/2006

WESTMAN CHAMPLIN & KELLY, P.A.

SUITE 1400

900 SECOND AVENUE SOUTH

MINNEAPOLIS, MN 55402-3319

EXAMINER

SIEFKE, SAMUEL P

ART UNIT

PAPER NUMBER

1743

DATE MAILED: 12/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/675,018	<b>Applicant(s)</b> STAPHANOS ET AL.	
	<b>Examiner</b> Samuel P. Siefke	<b>Art Unit</b> 1743	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 September 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 17-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 5, 7, 8 and 11-16 is/are rejected.
- 7) ☒ Claim(s) 2-4, 6, 9 and 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Election/Restrictions*

Claims 17-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Group II, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 9/21/06.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 5, 7-8, 11 and 13-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Mueller et al. (USPN 7,141,211).

Mueller discloses a chemical analyzer that comprises a flow restrictor (25) for receiving a circulating (pipe 24) fluid sample (1) that contains a sulfur concentration and having an restrictor outlet for passing a sample to a vaporizer (4) for vaporizing the sample, a combustion chamber (FID 5, 19) for receiving the sample, air (7), and gas (6) for combusting the sulfur sample into sulfur dioxide (col. 1, lines 63-66), a pump for receiving the combustion exhaust gas at an inlet pressure and providing pressurized

Art Unit: 1743

combustion exhaust gas at a pressure that is higher than the inlet pressure (col. 3, lines 28-47). The Examiner is interpreting the feeder 10 as an equivalent to the pump in the instant application because the feeder 10 provides a combustion gas to the flame photometric detector in a charged or pressurized state. The carrier gas source 13 provides the pressurization needed to push the combustion gas to the flame photometric detector (17) which provides a chemical analysis of the combustion exhaust gas (sulfur dioxide concentration). Mueller discloses a controllable sample feeder 29 that introduces a predefined volume of liquid sample into the interior of the sample vaporizer. The Examiner is interpreting the feeder 29 as the liquid injection valve of the instant application. Mueller discloses a capillary material 26 that comprises stranded metal wire enhances the sample transport of the liquid sample 1 to the vaporizer and also inhibits backflow of the vaporized sample 1. The Examiner considers the capillary material 26 as being coupled to the combustion chamber because the devices are all in one continuous fluid communication. The device further comprises an oven that encloses the vaporizer and the flame photometric detector (oven 28) and column 3, lines 48-52 states that all parts that carry the combustion products 9 are kept within a temperature range of 100 degrees Celsius or greater to prevent condensation of water vapor and to prevent the formation of acids. Mueller discloses a correction device that comprises correcting the detector signal by the measuring signal supplied by the flame ionization detector (col. 3, line 60- col. 4, line 9). Gasoline is one of the samples disclosed in Mueller (col. 3, line 17-19).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mueller et al. (USPN 7,141,211).

Mueller teaches a chemical analyzer as seen above.

Mueller does not specifically state maintaining temperatures of about 225 degrees centigrade or sulfur concentration detection less than 500 ppm.

Mueller teaches an oven that encloses the vaporizer and the flame photometric detector (oven 28) and seen in column 3, lines 48-52 which states that all parts that carry the combustion products 9 are kept within a temperature range of 100 degrees Celsius or greater to prevent condensation of water vapor and to prevent the formation of acids. It would have been obvious to one having an ordinary skill in the art at the time of the invention to modify Mueller to employ temperatures of 225 degrees centigrade throughout the device to prevent condensation of water vapor and to prevent the formation of acids. Further it would have been obvious to one having an ordinary skill in the art at the time of the invention to modify Mueller to detect sulfur concentrations in samples having less than 500 ppm sulfur because the flame photometric detector is well known in the art for 500 ppm detection of sulfur concentrations in samples.

***Allowable Subject Matter***

Claims 2-4, 6, 9 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**Conclusion**


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel P. Siefke whose telephone number is 571-272-1262. The examiner can normally be reached on M-F 7:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on 571-272-1700. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sam P. Siefke

December 8, 2006

  
Jill Warden  
Supervisory Patent Examiner  
Technology Center 1700